KNEE PROSTHESIS

INTRODUCTION

- **DEFINITIONS:**

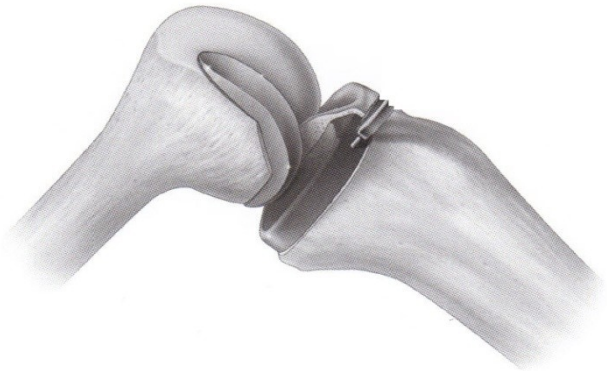
- **PROSTHESIS**: “An artificial replacement of part of the body aimed to improve the function of that particular area (usually a joint in orthopaedics”

- **ARTHROPLASTY:** “Surgical reconstruction or substitution of a joint”

UNICOMPARTMENTAL KNEE PROSTHESIS

HISTORY

- 1970 Marmor & Cartier
- 1974 Goodfellow & O’Connor (Oxford)



HISTORY

1990’s

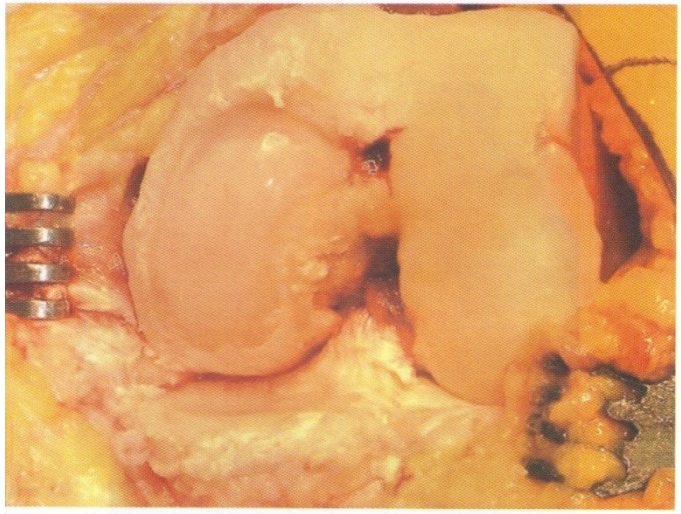
- 98% survival at 10 years

2000’s

- Life span close to 20 years

CONCEPT

- Inserted
- Fills up worn area
- Restore constitutional axis
- Restore ligament balance



DESIGN

- Internal
- External
- Patellofemoral
- Combined

DESIGN

- Cemented

- Metal backed
- All poli

INDICATIONS

1.- AGE
2.- ACTIVITY LEVEL
3.- PAIN
4.- ARTICULAR BALANCE
5.- LIMB AXIS

INDICATIONS

1.- AGE

- < 60 yo
- Between 60 and 80 yo
- > 80 yo

INDICATIONS

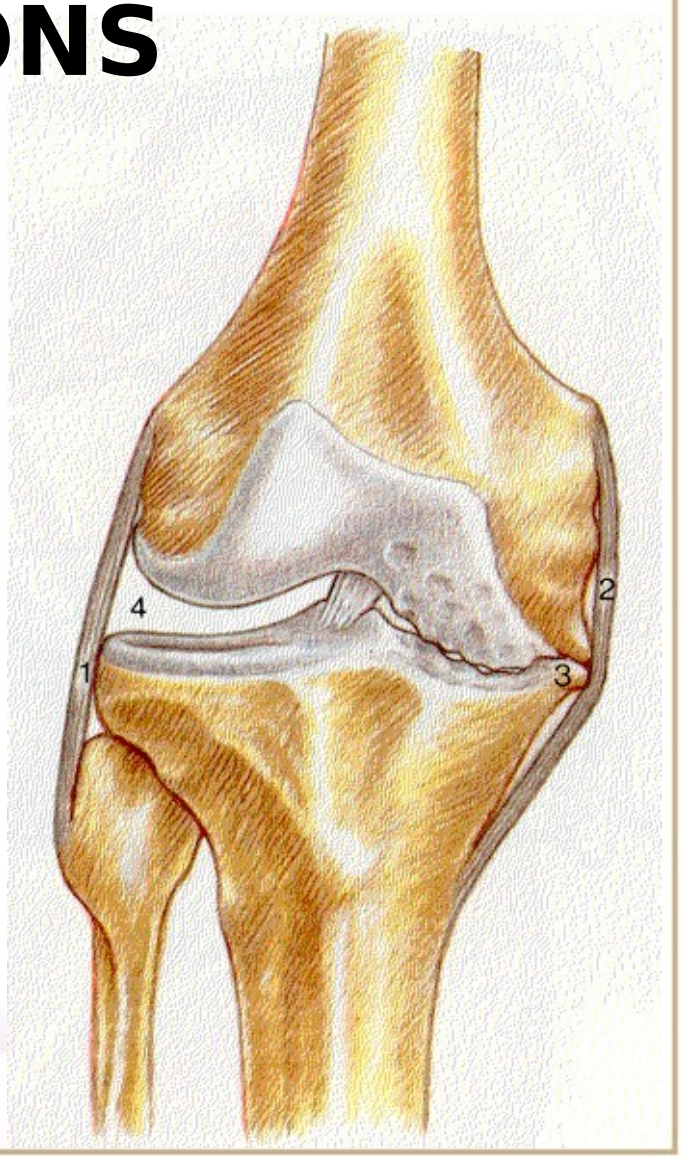
1.- AGE
2.- ACTIVITY LEVEL

- Sedentary
- Urbanite
- Sports w/o heel beating

INDICATIONS

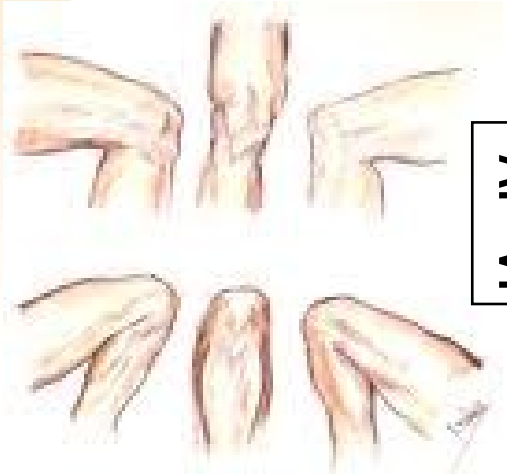
1.- AGE
2.- ACTIVITY LEVEL
3.- PAIN

- Unicompartmental
- Sharp spot
- Mechanical



INDICATIONS

1.- AGE
2.- ACTIVITY LEVEL
3.- PAIN
4.- ARTICULAR BALANCE



≥10º TKA
≤100º

INDICATIONS

1.- AGE
2.- ACTIVITY LEVEL
3.- PAIN
4.- ARTICULAR BALANCE
5.- LIMB AXIS

- No severe axis deviation
- Reductibility
- No laxity of the convexity
- No anterior laxity

RADIOLOGICAL CRITERIA

1.- CONVENTIONAL (load bearing)

- AP: Evaluate lateral traslation
- Lat: Evaluate anterior traslation
- Axial: 30º and 45º
- Schuss: Intercondylar

RADIOLOGICAL CRITERIA

2.- SPECIFIC X-ray

- STRESS
  - Correction
  - Convexity laxity
  - Femorotibial traslation

- PANGONOGRAME
  - Evaluate axis

IDEAL PATIENT

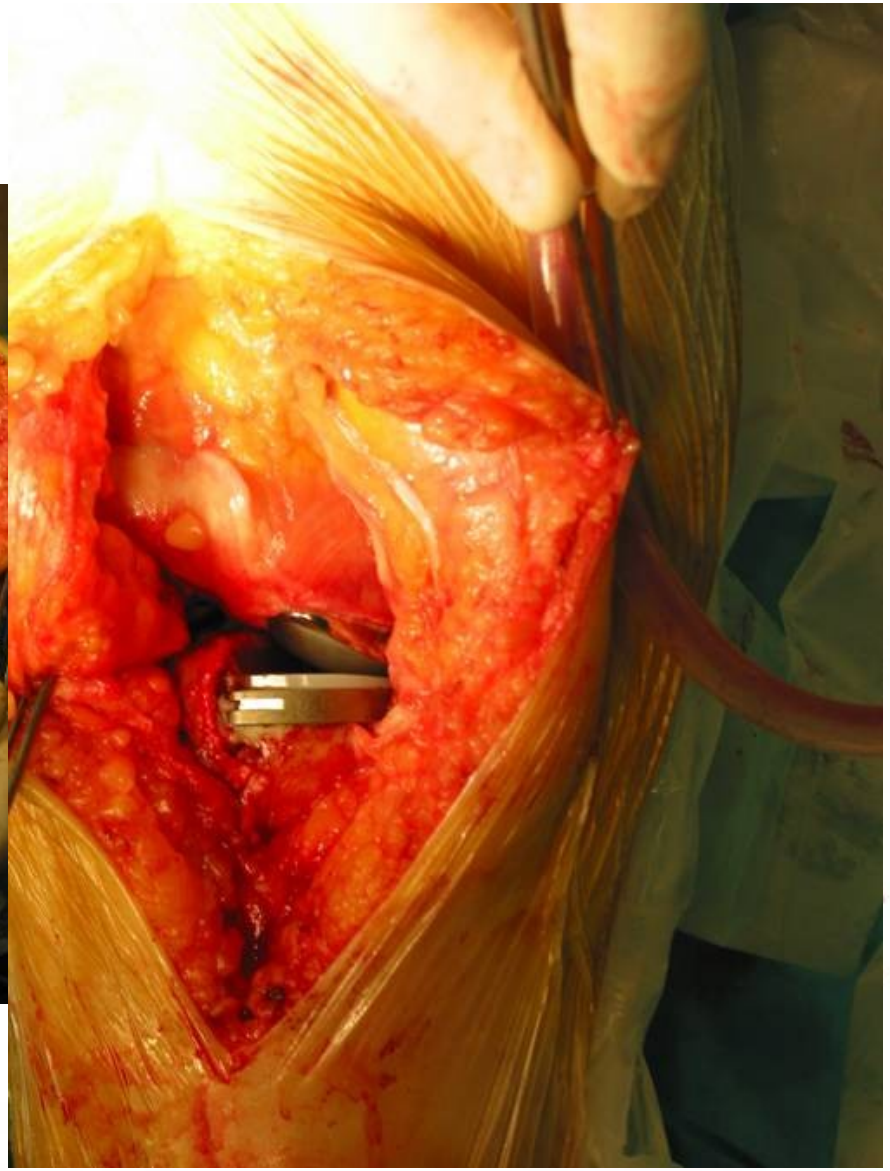
- AGE: 65 yo
- No overweight
- Normal axis (± 7º)
- OA / AVN
- Unicompartimental
- Ligaments preserved
    - ACL
    - Reductible deformity
    - No convexity laxity

ABSOLUTE CONTRAINDICATIONS

- Inflammatory Disease
- OA of opposite compartment
- FP symptoms
- Varus/Valgus > 15º
- Anterior Laxity (ACL)
- Medial-lateral laxity
- Convexity laxity
- Non-reductible
- Morbid obesity
- Extension > 10º
- Flexion > 100º

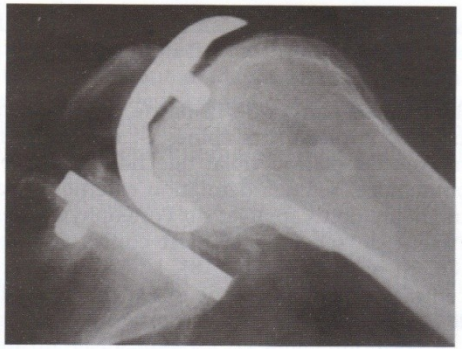
RELATIVE CONTRAINDICATIONS

- Moderate overweight
- FP moderate symptoms
- Extension <10º
- Foreign / Loose body
- Bone growth (post- trauma)

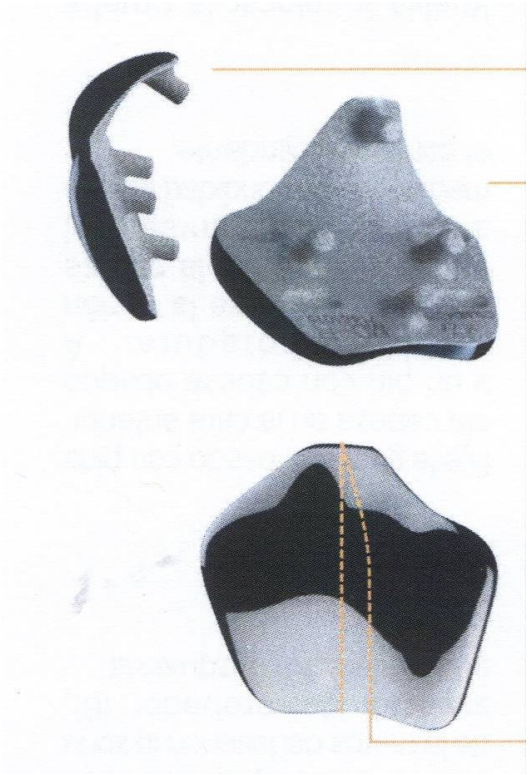


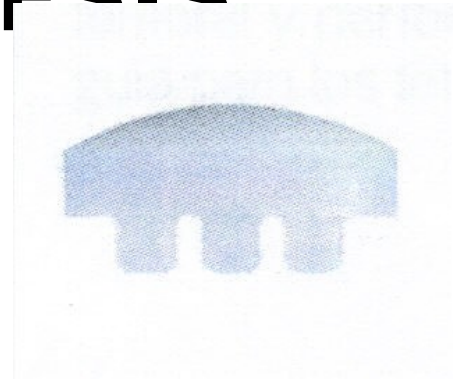
COMPLICATIONS

- Loosening
    - Aseptic
    - Septic
- Periprosthetic Fractures
- Ligament failure
- OA progression



FEMOROPATELAR PROSTHESIS





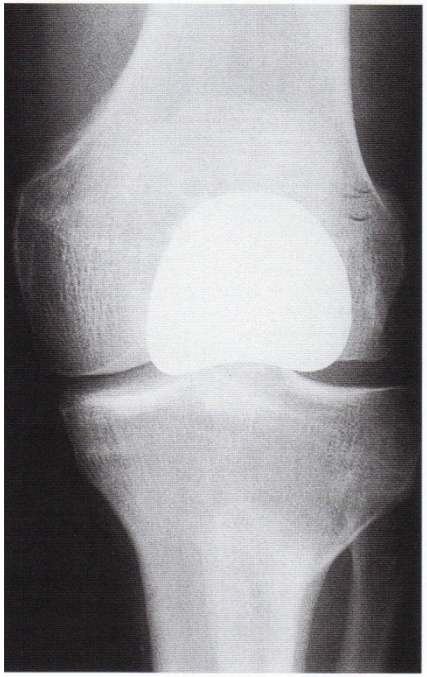
HISTORY

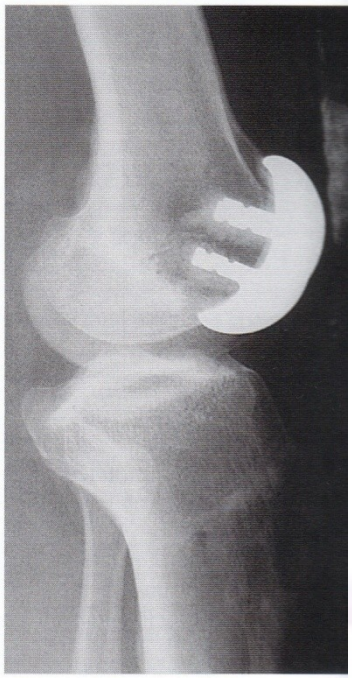
- 1979 Lubinus (high rate of failure)
- 1990 Arciero, Toomey y Cartier

CONCEPT

- Resurfacing

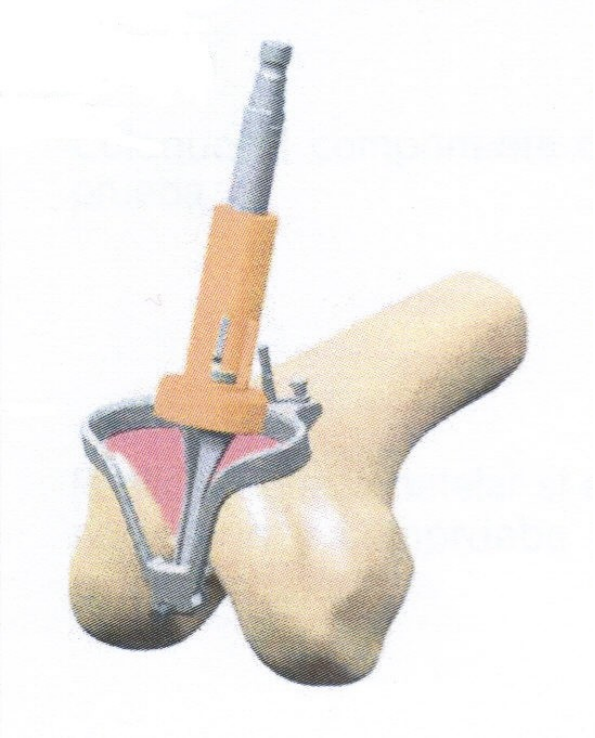
- Patelar prosthetization??





DESIGN

- Cemented

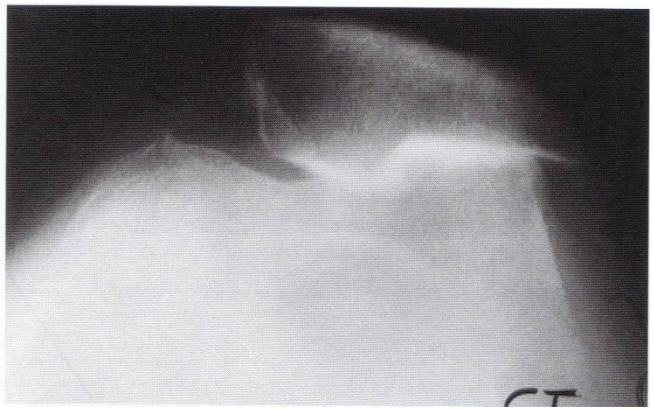


CLINICAL CRITERIA

1.- Untreatable pain
2.- Crepitus
3.- Retropatellar pain

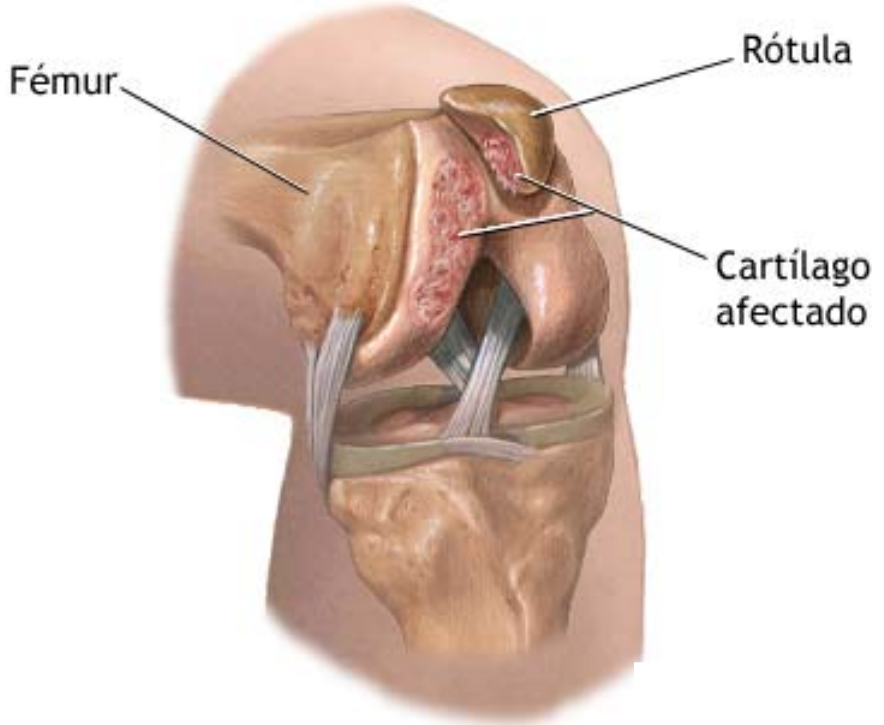
RADIOLOGICAL CRITERIA

- OA both trochlear slopes



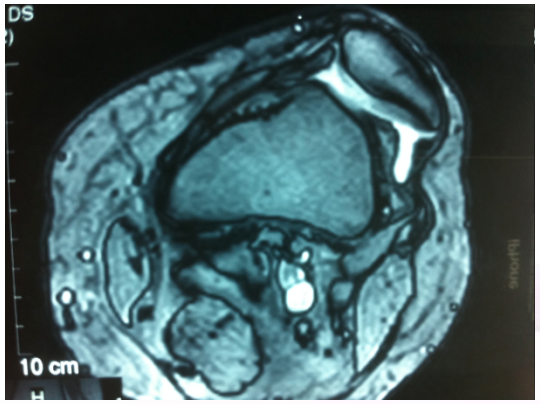
ARTHROSCOPIC CRITERIA

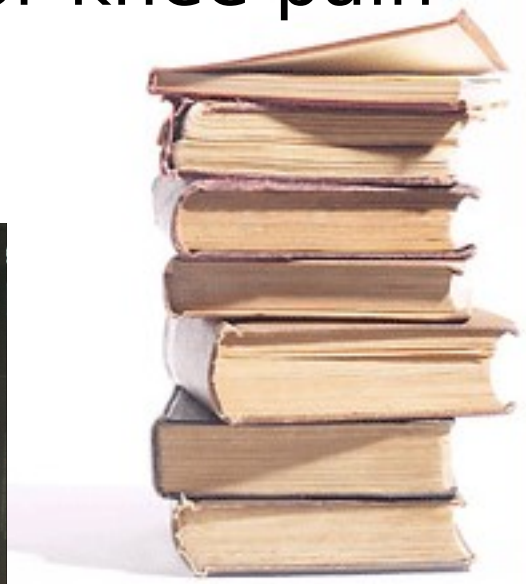
- Condropathy stage IV



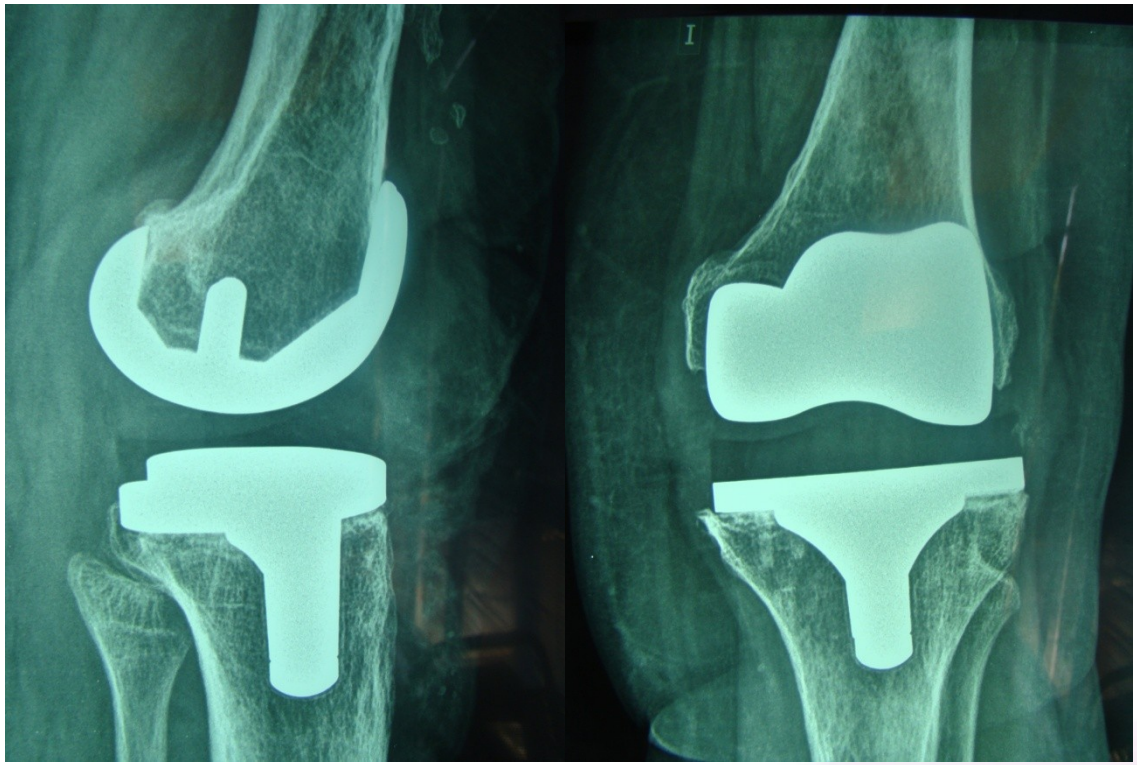
OTHER CONSIDERATIONS

- Age
- Weight
- Personal history of anterior knee pain
- Trochlear displasia
- Patellar sub/luxation

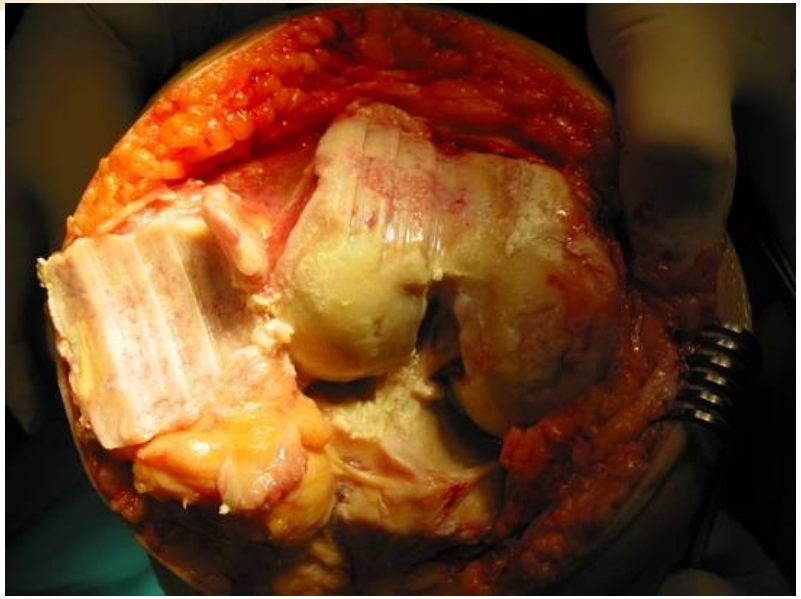




TOTAL KNEE REPLACEMENT



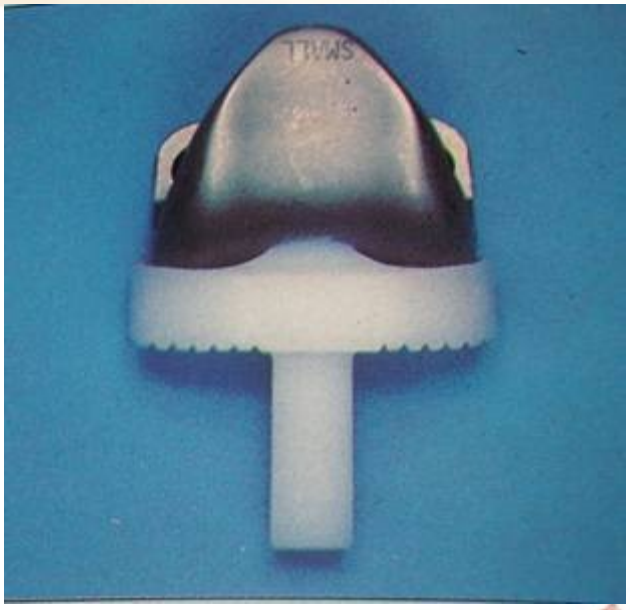
- **HISTORY**



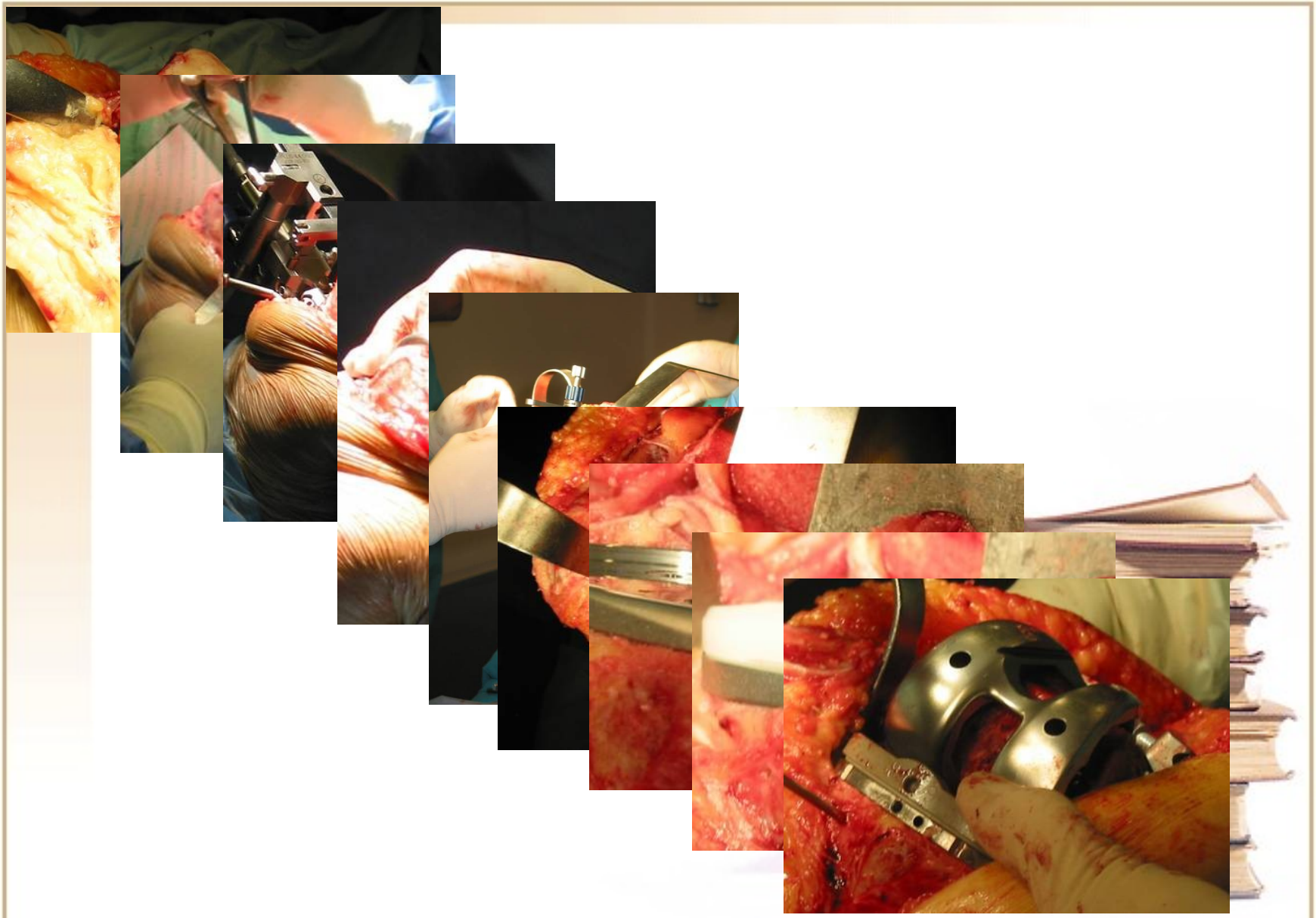
- 1958, McIntosh & McKeever
- Gunston
- Freeman y Swanson
- 1973, A. Trillat et al

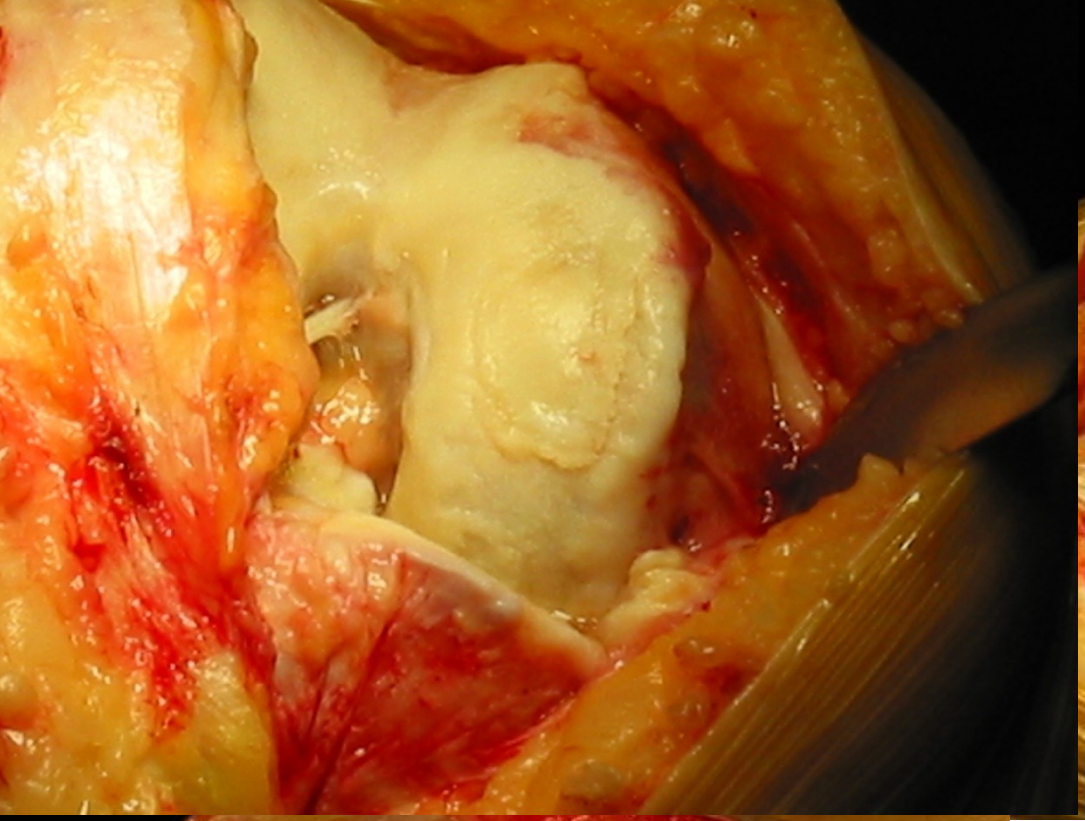
TYPES

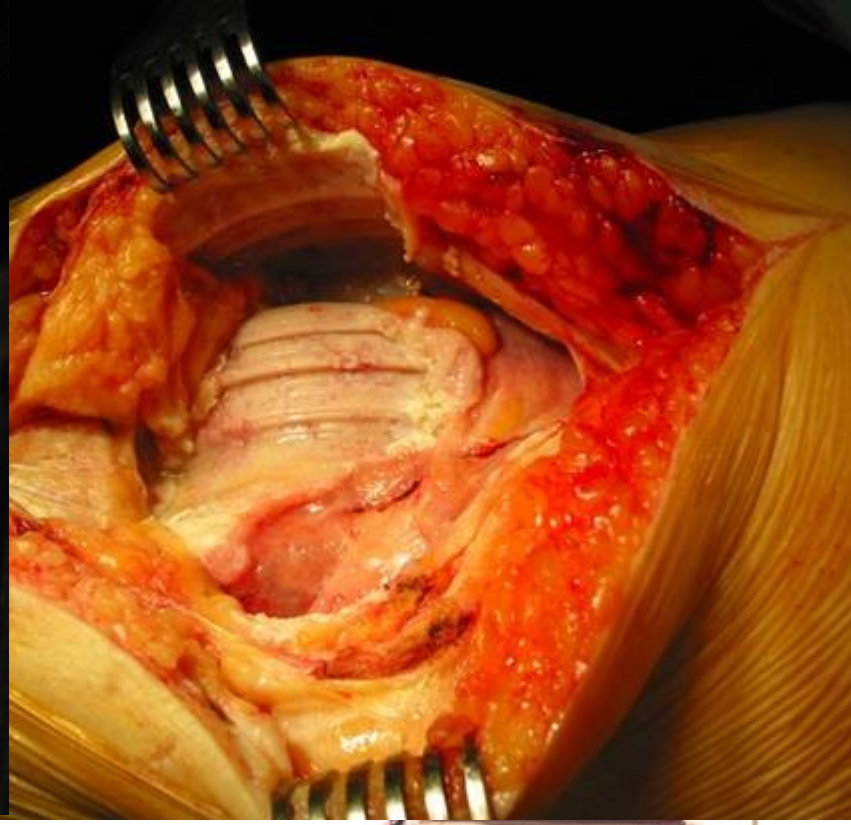
- PCL
  - Retaining
  - Non-retaining
- Polyethylene
  - Fixed
    - Mobile
  - All poli
- Fixation
  - Non-cemented
  - Cemented

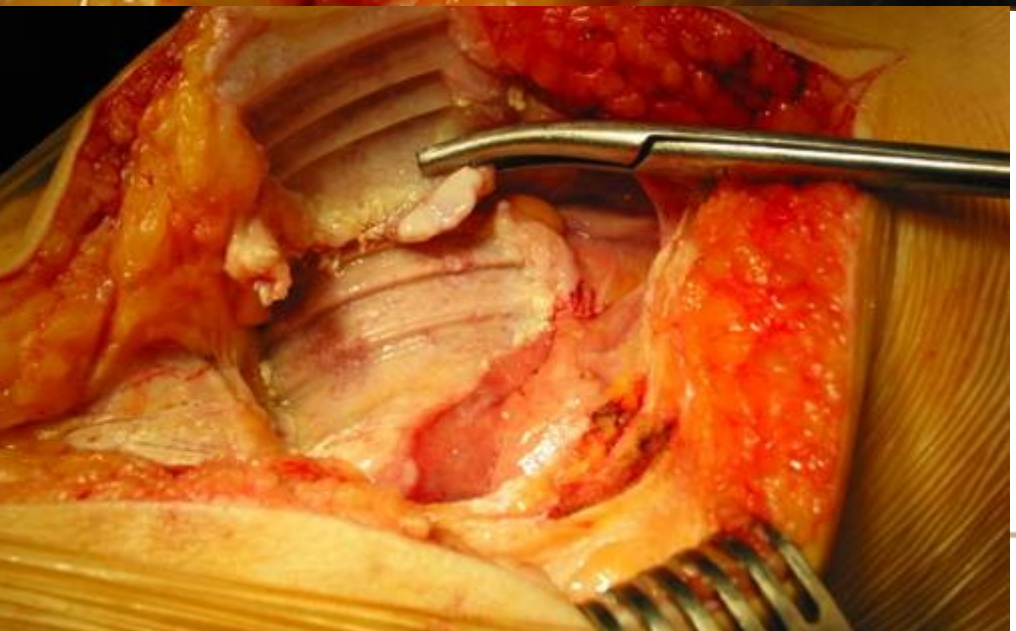


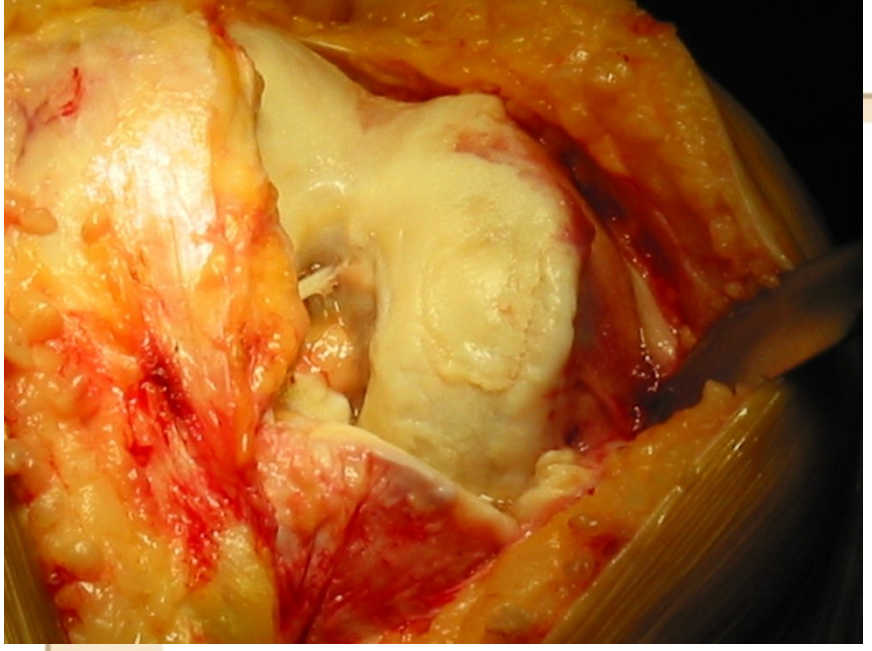
- **DESIGN**
  - Metallic femur + metallic tibial base + Polyethylene
  - Metallic femur + fixed metallic and Polyethylene tibial base
  - Metallic femur + All poli tibial base
  - Ceramic femur + All poli tibial base (scarse)

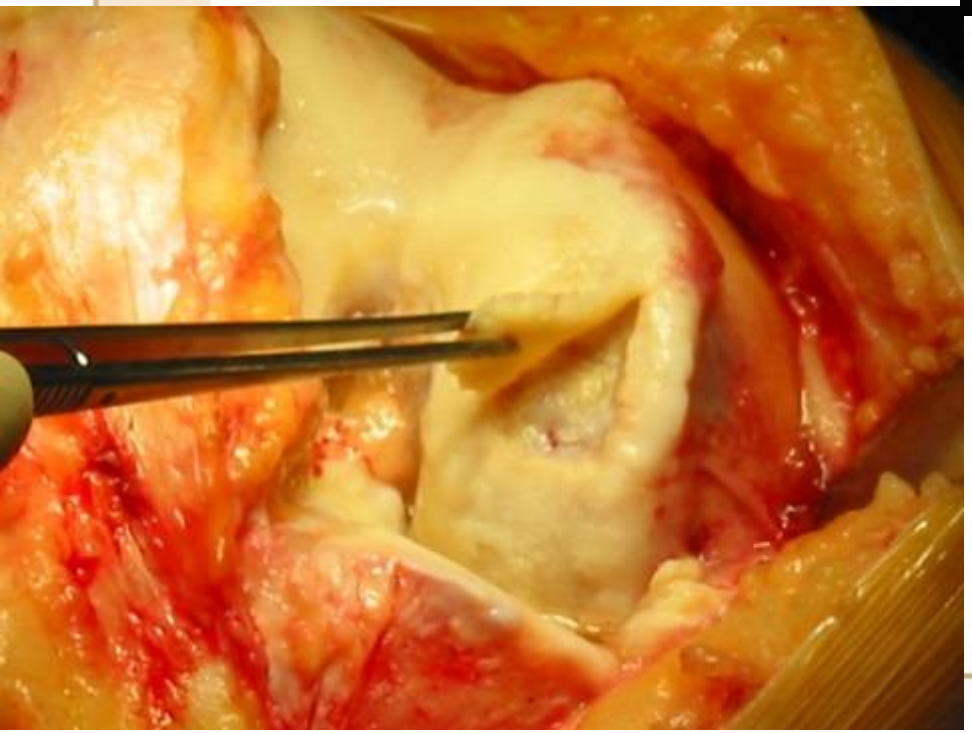


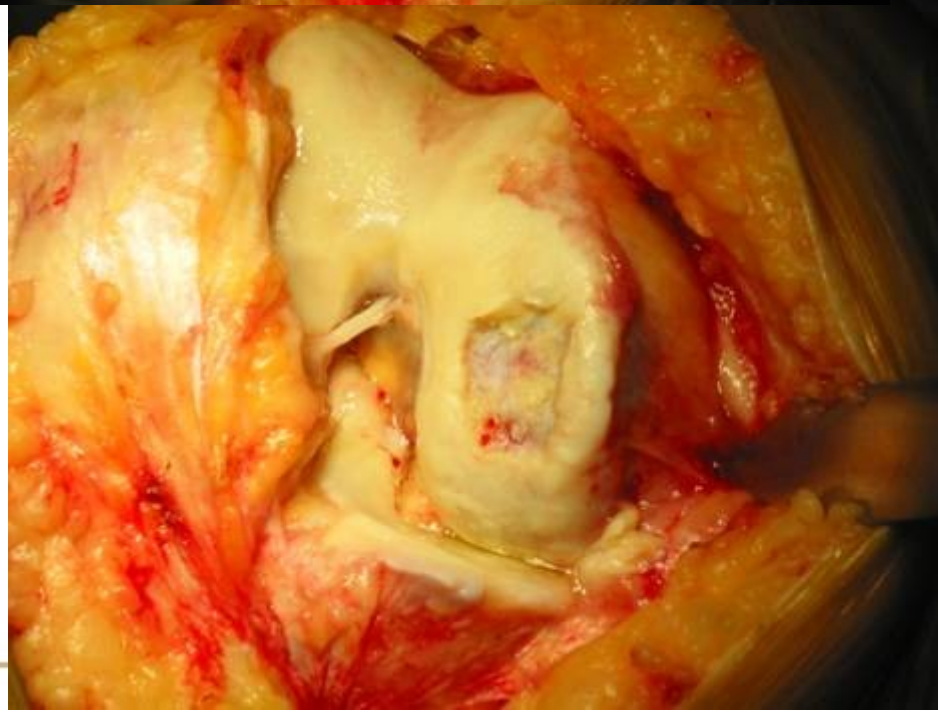




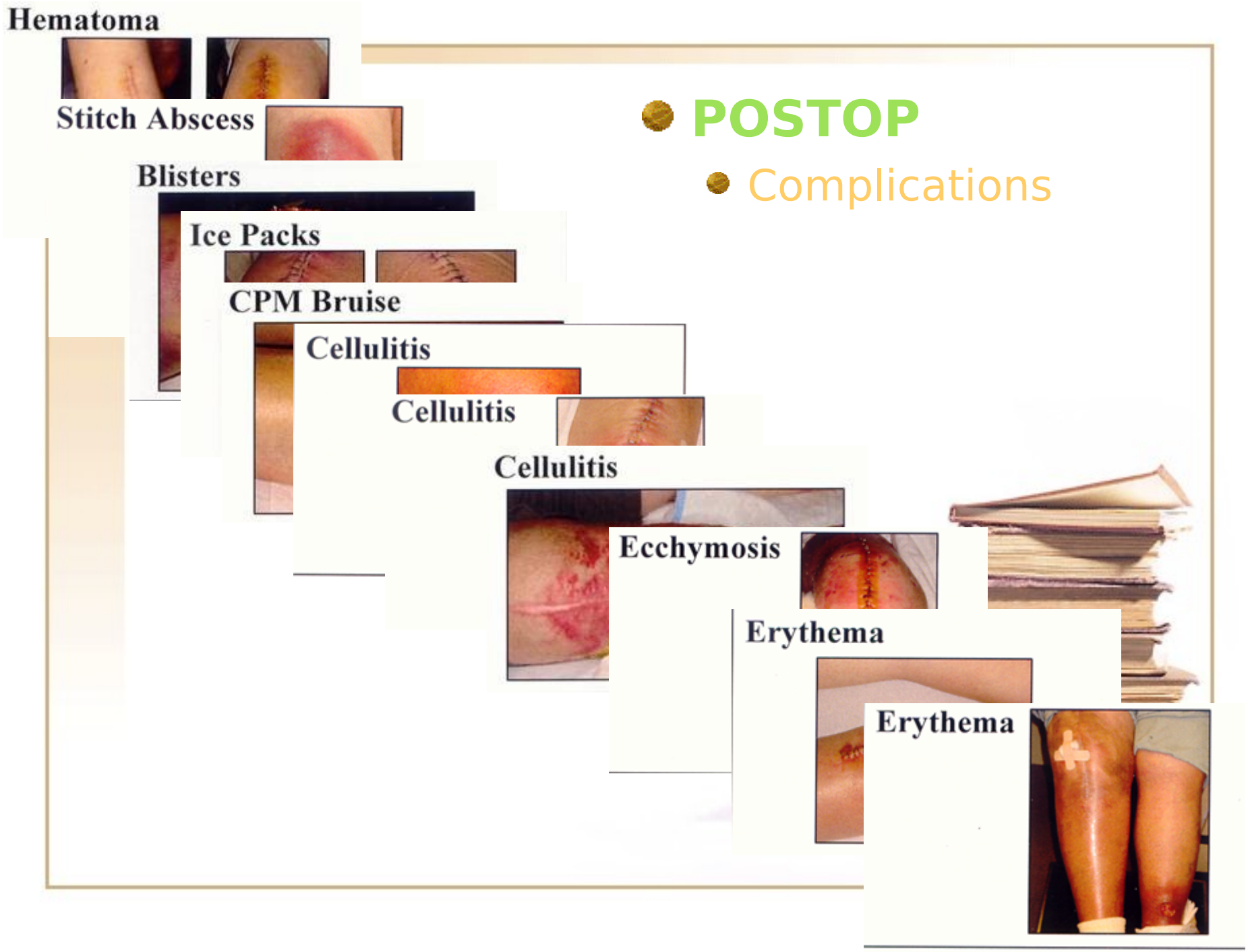








- **POSTOP**
  - Complications



PROS & CONS

- **PROS**
  - Pain relief
  - Improve mobility
  - Improve quality of life

PROS & CONS

- **CONS**
  - Infection
  - Cutaneous necrosis
  - General complications
    - DVT
    - PTE
  - Short life span
  - Material wear / Fatigue

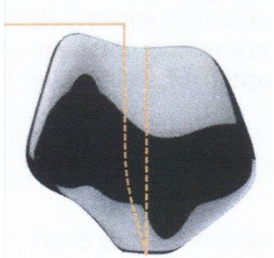
CONCLUSION

- Strict indication criteria
- Surgical technique
- Outstanding physiotherapy

Excelent results

FUTURE

0,5



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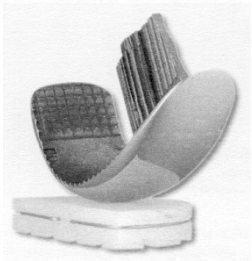

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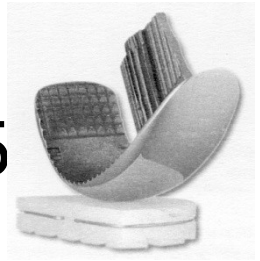

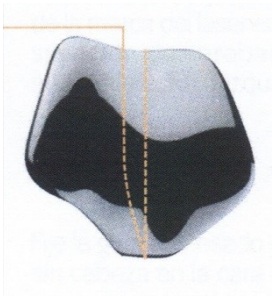

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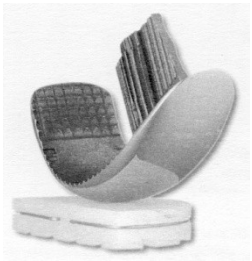
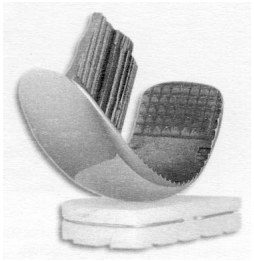


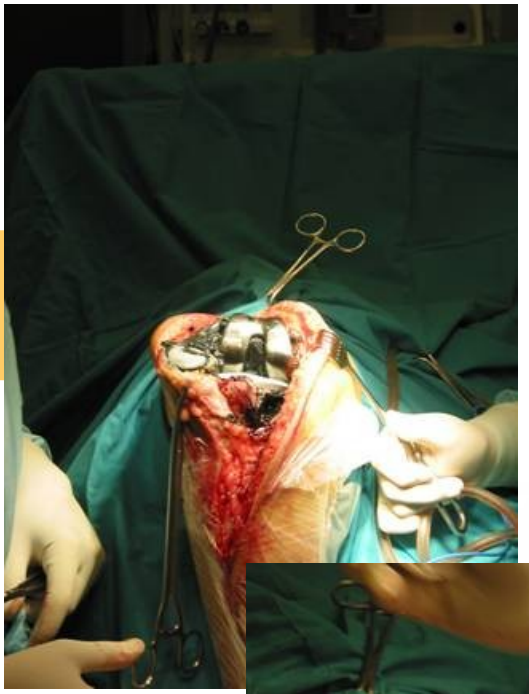


3

BUT

Bad results

TKA REVISION SURGERY

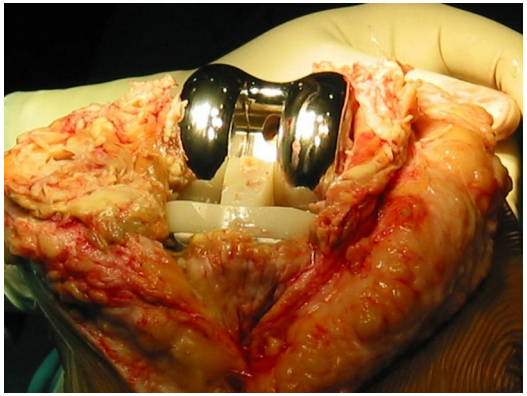


COMPLICATIONS

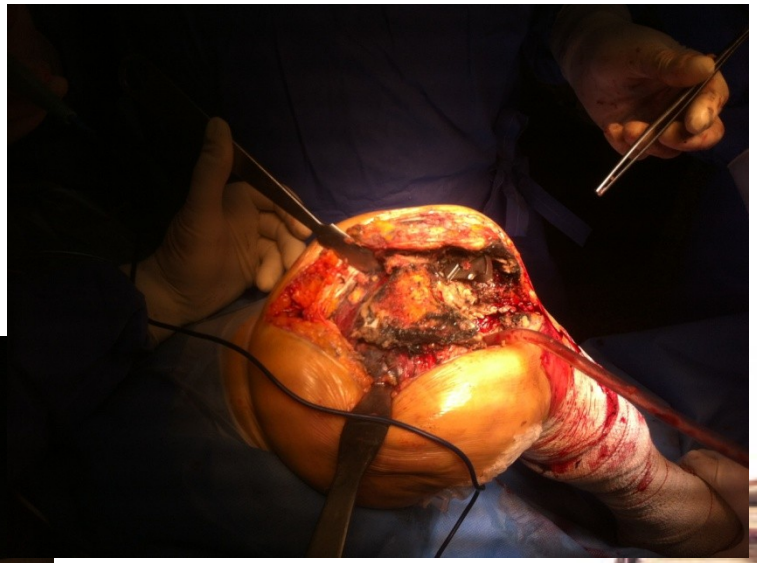
- Acute Infection
- Septic loosening
- Aseptic loosening
  - Unknown
  - Polyethylene disease
  - Metallosis
- Periprosthetic fx

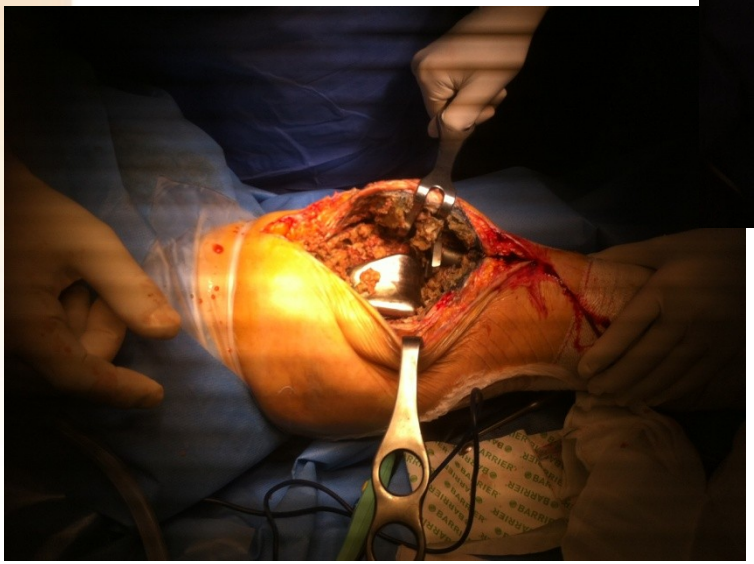
REVISION PROSTHESIS

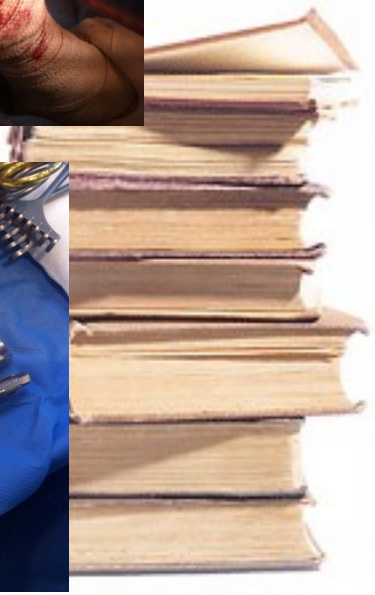
- TS
- PS
- Stemmed
- Hinged
- Megaprosthesis



MEGAPROSTHESIS







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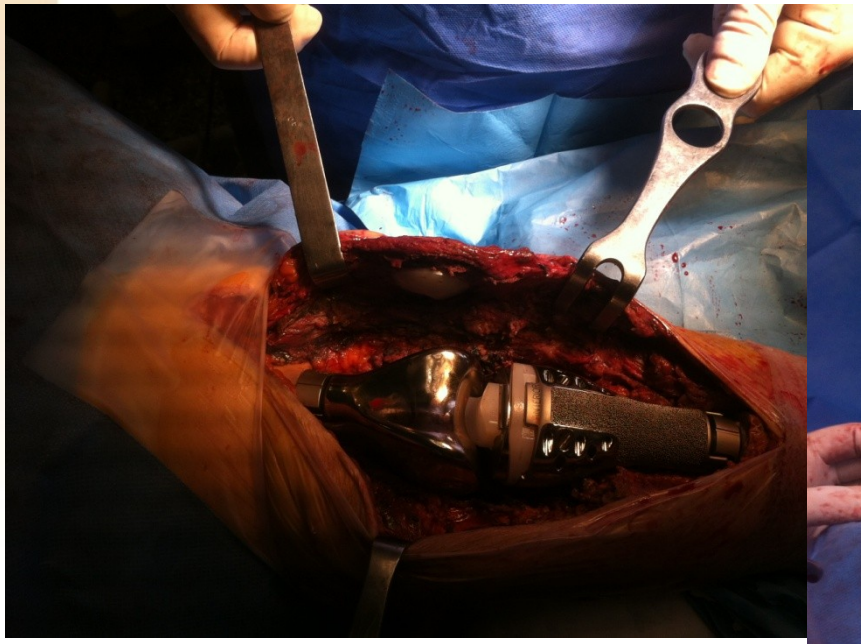

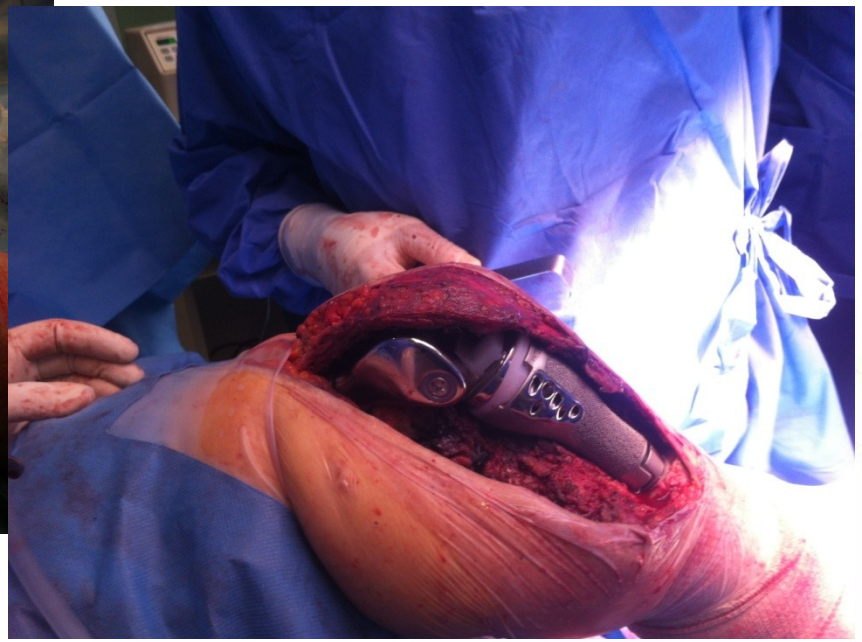

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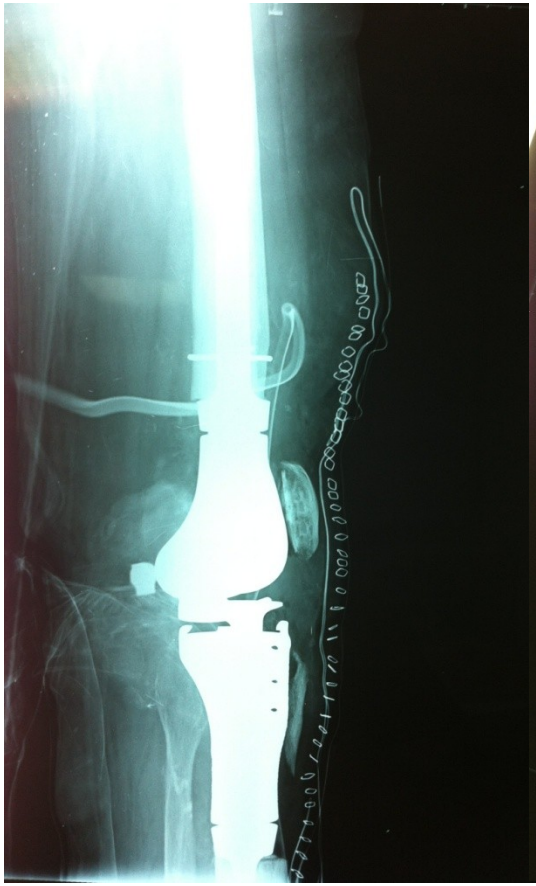

THANK YOU FOR YOUR ATTENTION
GRACIAS POR VUESTRA ATENCIÓN